

CLAIMS

I claim:

1. An in-vivo device comprising:
 - an image sensor; and
 - a ballast.
2. The device as in claim 1, wherein said ballast is capable of orienting said in-vivo device to a known orientation.
3. The device as in claim 1, wherein a center of gravity of said device is below a longitudinal axis of symmetry of said device.
4. The device as in claim 3, comprising an optical system located on a transverse side of said in-vivo device below said longitudinal axis of symmetry.
5. The device as in claim 4, comprising an optical system on an axial portion of said device.
6. The device as in claim 4, wherein an outer shell of said device comprises said optical system.
7. The device as in claim 3, wherein said optical system comprises a magnifying device.
8. The device as in claim 3, wherein said optical system is to collect light reflected from a wide angle of said in-vivo area.
9. The device as in claim 1, wherein said ballast is to re-orient said in vivo device in response to a movement of a body within which said in-vivo device is located.
10. The device as in claim 1, wherein said ballast is to change an orientation of said device in response to a magnetic field.
11. The device as in claim 1, wherein said ballast comprises an active component of said imaging device.
12. The device as in claim 1, comprising a first optical system facing in a horizontal direction and a second optical system facing in a vertical direction.
13. An in vivo imaging device comprising:
 - a first imager and first optical system to image in a direction parallel to an axial portion of said in vivo imaging device; and

a second imager and second optical system to image in a direction parallel to a transverse portion of said imaging device.

14. The device as in claim 13, comprising a ballast to orient said device.
15. The device as in claim 13, comprising a curved mirror.
16. The device as in claim 13, wherein said second optical system is to direct light reflected from a circular field of view.
17. The device as in claim 13, wherein said second optical system is configured to direct light reflected off a ring shaped slice of an in-vivo area.
18. The device as in claim 13, wherein:
 - said first optical system is to collect light reflected from a first in-vivo area in front of said axial portion of said device; and
 - said second optical system is to collect light reflected from a second in-vivo area parallel to said transverse portion of said imaging device.
19. The device as in claim 13, comprising a transmitter to transmit image data collected by said image sensor.
20. The device as in claim 19, wherein said transmitter is configured to transmit said data on more than one channel.
21. The device as in claim 13, wherein said device is configured to be swallowed.
22. The device as in claim 13, wherein said second optical system is configured to capture light from a field of view of at least 180 degrees.
23. The device as in claim 13, wherein said second optical system comprises a magnifying lens.
24. The device as in claim 13, wherein said second optical system comprises a transparent ring-shaped shell.
25. A method of in vivo imaging comprising:
 - capturing a first image of a first in-vivo area with an autonomous imaging device, said first area in front of an axial plane of said device; and
 - capturing a second image of a second in-vivo area with said imaging device, said second area transverse to said axial plane of said device.
26. The method as in claim 25, wherein capturing said second image comprises capturing a panoramic image.

27. The method as in claim 25, comprising, within the in-vivo device, magnifying said second image.
28. The method as in claim 25, wherein capturing said second image comprises capturing light reflected off of a curved reflective element.
29. A method of in vivo imaging, comprising:
 - orienting an in-vivo imaging device with a ballast; and
 - capturing an image of an in-vivo area.
30. The method as in claim 29, comprising moving a body wherein said device is located.
31. The method as in claim 29, wherein said capturing comprises capturing an image of an area surrounding a transverse portion of said device.
32. The method as in claim 29, comprising positioning a body wherein said device is located.